Amendment to the Claims:

1. (Previously Amended) An apparatus for guiding the movement of a surgical tool in relation to the anatomy of a patient, the apparatus comprising:

display means disposed remote from the tool for indicating to a human the difference between an actual and a desired position of the tool, the display means having a display reference frame; and

means for determining an actual position of the display means, wherein the difference is indicated with respect to the display reference frame.

2-6. (Cancelled)

7. (Previously Amended) The apparatus of claim 1 wherein the means for indicating comprises at least one indicator.

8. (Original) The apparatus of claim 7 wherein the at least one indicator is characterized by an indicator reference frame and the difference is indicated with respect to the indicator reference frame.

9. (Original) The apparatus of claim 8 wherein the at least one indicator is mounted to a patient support.

10. (Original) The apparatus of claim 1 further comprising

means for defining a desired position based on an image of the anatomy;

means for determining the actual position of the tool; and

means for determining the difference between the actual and desired positions.

11. (Original) The apparatus of claim 10 wherein the means for determining the actual position comprises one of an infrared localizer and an articulated arm.

12. (Previously Presented) The apparatus of claim 1 wherein the actual and desired positions are at least one of a desired location, trajectory, depth, and rotation.

13. (Original) The apparatus of claim 1 wherein the means for indicating comprises a position indicator and a mode indicator.

14. (Cancelled)

15. (Previously Presented) An apparatus for guiding the movement of a surgical tool in relation to the anatomy of a patient, the tool having a pointing axis, the apparatus comprising:

display means for indicating to a human a difference between an actual and a desired position of the tool; and

means for determining an actual position of the display means, wherein the means for indicating comprises at least two indicators mounted in a plane substantially orthogonal to the pointing axis.

16-21. (Cancelled)

22. (Currently Amended) An apparatus for use with an image guided surgery system, the apparatus comprising:

a surgical tool;

~~a mechanism for communicating an actual position of the tool to the image guided surgery system;~~

first and second display members associated with the tool and arranged along a first line and third and fourth display members associated with the tool and arranged along a second line, the first and second lines being perpendicular, the ~~indicators~~ display members providing to a human operator an indication of a direction in which the tool should be moved to reach a desired position;

a mechanism for determining an actual position of the surgical tool;

a processor programmed to update the tool position, to control the first, second, third, and fourth display members, as the tool moves, to indicate deviations from a planned trajectory in a frame of reference of the display members.

23-25. (Cancelled)

26. (Previously Presented) A method for guiding the movement of a surgical tool with respect to the anatomy of a patient having a patient reference frame, the method comprising the steps of:

determining a desired position of the tool based on an image of the anatomy of a patient, the image having an image reference frame;

correlating the image and patient reference frames;

determining an actual position of the tool;

determining a direction in which the tool must be moved to reach the desired position;

determining an actual position of a human readable position display disposed remote from the tool having a display reference frame; and

utilizing the human readable position display to indicate the direction in which the tool must be moved to reach the desired position, said indication being provided in relation to the indicator reference frame.

27-28. (Cancelled)

29. (Previously Presented) A method for guiding the movement of a surgical tool with respect to the anatomy of a patient having a patient reference frame, the method comprising the steps of:

displaying an image of the anatomy of the patient on a display disposed remote from the surgical tool;

determining a desired position of the tool based on the displayed image;

determining a direction the tool must be moved to reach a desired position;

determining an actual position of a position indicator having an indicator reference frame, wherein the position indicator is mounted to the tool and the step of determining an actual position of the position indicator includes determining an actual position of the tool; and

utilizing the position indicator to indicate to a human the magnitude of the distance the tool must be moved to reach the desired position, said indication being provided in relation to the indicator reference frame, wherein said indication is provided by varying the one of the blink rate and color of an indicator visible to a user.

30. (Cancelled)

31. (Previously Presented) The method of claim 26 wherein the human readable position display includes a plurality of light emitting diodes mounted to the tool.

32-41. (Cancelled)

42. (Currently Amended) An apparatus comprising:

a surgical tool;

a display ~~associated with~~ attached to the tool;

a mechanism for locating an actual position and orientation of ~~a distal end of~~ the tool with its attached display; and

a mechanism for causing the display attached to the tool to indicate to a human a direction in a frame of reference of the tool and the display in which the ~~distal end~~ tool should be translated to reach a desired position.

43. (Previously Presented) The apparatus of Claim 42, wherein the display comprises a plurality of indicators disposed at angular intervals surrounding a central point.

44. (Currently Amended) An apparatus comprising:

a tool for use in connection with surgery;

a first display remote from the tool which displays an anatomical image including target anatomy and a desired trajectory to be followed while moving the tool to the target anatomy;

a mechanism for locating an actual position of the tool relative to ~~a desired position of~~ the target anatomy as the tool is moved toward the target anatomy;

a second display associated with the tool for indicating differences between the actual position of the tool and the desired ~~position of the tool~~ trajectory, wherein said differences are indicated with respect to the tool; and

a mechanism for causing the second display to indicate to a human a direction in a frame of reference of the second display the tool should be moved to reach the ~~desired position~~ target anatomy.

45. (Currently Amended) A method for guiding the movement of a surgical tool, said method comprising:

tracking a surgical tool with reference to a patient's anatomy;

determining a direction in which the surgical tool should be moved from an actual position to reach a desired position with respect to the patient, the desired position being indicated with reference to a diagnostic image of the patient displayed on a displaly remote from the surgical tool; and

activating a display ~~associated with~~ on the surgical tool to indicate the direction in which the tool should be moved from the determined actual position to reach the desired position.

46. (Original) The method of Claim 45, wherein the indicated direction is relative to a reference frame of the surgical tool.

47. (Currently Amended) An apparatus, comprising:

a hand-held surgical tool with an associated display operable to ~~be~~ have a tip portion inserted into a patent;

a tool position tracker for tracking a position and orientation of the hand-held tool and the associated display with respect to a reference frame; and

~~a display associated with said hand-held surgical tool,~~ the display ~~adapted~~ being configured to produce a visual indication of a direction in which the tool should be moved to reach a desired position based at least in part on the position and orientation of the tool as determined by the tool position tracker, ~~wherein~~ the indicated direction ~~is~~ being relative to a reference frame of the hand-held surgical tool.